

DETAILED ACTION

This communication is responsive to Amendment filed 10/08/2009.

Claims 1-18, 39-40 are pending in this application. Claims 1, 10, 39 are independent claims.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative, Ms. Jessica M. Meyers, on January 05, 2010.

Cancel claims 4, 7-8, 13, 16-17

The application has been amended as follows:

1. (Currently Amended) A method for creating a file information database comprising:
 - scanning a storage server having a directory structure;
 - collecting data regarding the directory structure;
 - for each directory of the directory structure, determining whether each member of the directory is a file or subdirectory;
 - using a first thread to:
 - traverse the directory structure in a depth first search (DFS) order; and

assign a first unique identification (ID) number to a first determined directory and a second unique ID number to a second determined directory in the directory structure, wherein the ID numbers are assigned while the directory structure is being traversed in the DFS order, and wherein the ID numbers correspond to the DFS order in which the determined directories are traversed;

using a second thread to examine the determined files;

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writing a data structure including the first ID number, the second ID number and a relation between the first directory and the second directory, wherein the relation indicates that the first directory is an immediate child of the second directory;

receiving a request to determine an immediate child or parent of a specified directory, wherein the specified directory is the first directory or the second directory;

searching the data structure for any relation indicative that the specified directory is a child or a parent in said relation, wherein said searching produces as a result said relation between the first directory and the second directory; and

determining the immediate child or parent of the specified directory based on said any relation.

2. (Original) The method of claim 1, wherein scanning and collecting comprise scanning and collecting by using an agent separate from the storage server.

3. (Original) The method of claim 2, wherein the agent has a first file system, and the storage server has a second file system, and wherein the first file system is different from the second file system.

4. (Canceled)

5. (Original) The method of claim 1, wherein assigning further comprises assigning the ID numbers while collecting the data.

6. (Original) The method of claim 1, wherein writing the data structure further comprises writing the data structure to a database server.

7-8. (Canceled)

9. (Currently Amended) The method of claim ~~[[4]]~~ 1, further comprising:
receiving a request to determine a set of ID numbers of every child of a third directory in the directory structure, wherein the third directory is assigned a third ID number;
determining a fourth ID number of a sibling of the third directory; and
determining the set of ID numbers between the third ID number and the fourth ID number.

10. (Currently Amended) A machine readable medium having stored thereon executable program code which, when executed, causes a machine to perform a method for creating a file information database, the method comprising:

scanning a storage server having a directory structure;
collecting data regarding the directory structure;
for each directory of the directory structure, determining whether each member of the directory is a file or subdirectory;
using a first thread to:
traverse the directory structure in a depth first search (DFS) order; and
assign a first unique identification (ID) number to a first determined directory and a second unique ID number to a second determined directory in the directory structure, wherein the ID numbers are assigned while the directory structure is being traversed in the DFS

order, and wherein the ID numbers depend on the DFS order in which the determined directories are traversed;

using a second thread to examine the determined files;

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writing a data structure including:

the first ID number,

the second ID number,

in association with the first ID number, an indication of a relation between

the first directory and the second directory, wherein the relation indicates that the first directory is an immediate child of the second directory;

receiving a request to determine an immediate child or parent of a specified directory, wherein the specified directory is the first directory or the second directory;

searching the data structure for any relation indicative that the specified directory is a child or a parent in said relation, wherein said searching produces as a result said relation between the first directory and the second directory;
and

determining the immediate child or parent of the specified directory based on said any relation.

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11. (Original) The machine readable medium of claim 10, wherein scanning and collecting comprise scanning and collecting using an agent separate from the storage server.

12. (Original) The machine readable medium of claim 11, wherein the agent has a first file system, and the storage server has a second file system, and wherein the first file system is different from the second file system.

13. (Canceled)

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14. (Original) The machine readable medium of claim 10, wherein assigning further comprises assigning the ID numbers while collecting the data.

15. (Original) The machine readable medium of claim 10, wherein writing the data structure further comprises writing the data structure to a database server.

16-17. (Canceled)

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18. (Currently Amended) The machine readable medium of claim 10, further comprising:

receiving a request to determine a set of ID numbers of every child of a third directory in the directory structure, wherein the third directory is assigned a third ID number;

determining a fourth ID number of a sibling of the third directory; and

determining the set of ID numbers between the third ID number and the fourth ID number.

19-27. (Canceled)

28. (Withdrawn)

29-31. (Canceled)

32. (Withdrawn)

33. (Canceled)

34-36. (Withdrawn)

37-38. (Canceled)

39. (Currently Amended) A method for creating a file information database comprising:

scanning a storage server having a directory structure;

for each directory of the directory structure, determining whether each member of the directory is a file or subdirectory;

using a first thread to assign a first unique identification (ID) number to a first determined directory and a second unique ID number to a second determined directory in the directory structure according to a depth first search (DFS) order, wherein the ID numbers are assigned while the directory structure is being traversed in the DFS order, and wherein the ID numbers are chronologically assigned in numerical order based on the DFS order in which the directory structure is traversed;

using a second thread to examine the determined files;

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writing a data structure including the first ID number, the second ID number and a relation between the first directory and the second directory, wherein the relation indicates that the first directory is an immediate child of the second directory, and wherein the data structure is traversable based on the ID numbers to determine relationships between directories of the storage server;

receiving a request to determine an immediate child or parent of a specified directory, wherein the specified directory is the first directory or the second directory;

searching the data structure for any relation indicative that the specified directory is a child or a parent in said relation, wherein said searching produces as a result said relation between the first directory and the second directory;
and

determining the immediate child or parent of the specified directory based on said any relation.

40. (Previously Presented) The method of claim 1, wherein a top level directory of the directory structure is assigned an ID of "0" (zero).

41- 46. (Withdrawn)

Statement of Reasons for Allowance

Claims 1-3, 5-6, 9-12, 14-15, 18, 39-40 are allowed.

The following is an examiner's statement of reasons for allowance.

The present invention is directed to a method for creating a file information database. A storage server having a directory structure is scanned or "file walk". Data regarding the directory structure is collected. Identification (ID) numbers are assigned to directories in the directory structure according to a depth first search (DFS) order. A table including the ID numbers is then written to store the results of a file walk so that they can easily be accessed and searched by an administrator.

All independent claims 1, 10, 39 recite, or similarly recite, in combination with the remaining elements, the methods/machine readable medium comprising:

writing a data structure including the first ID number, the second ID number and a relation between the first directory and the second directory, wherein the relation indicates that the first directory is an immediate child of the second directory, and wherein the data structure is traversable based on the ID numbers to determine relationships between directories of the storage server.

receiving a request to determine an immediate child or parent of a specified directory, wherein the specified directory is the first directory or the second directory;

searching the data structure for any relation indicative that the specified directory is a child or a parent in said relation, wherein said searching produces as a result said relation between the first directory and the second directory; and

determining the immediate child or parent of the specified directory based on said any relation.

The closest prior art, Lord et al (US 6,961,909), Perttunen et al (US 6,563,521), Watkins et al (US 6,457,017) show similar methods for providing a web browser display of a selected part of a tree-structured directory of hierarchically-related entities in a computer system. However, Lord et al, Perttunen et al, and Watkins et al., singularly or in combination, still fail to anticipate or render the above cited limitations obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James K. Trujillo, can be reached at (571) 272-3677. The fax number to this Art Unit is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/
Primary Examiner, Art Unit 2159